The Data Center Journal
Where IT, Facilities & Design Meet

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DC Current being tested for the Data Center

By Staff Writer

Researchers at the U. S. Department of Energy's Lawr
Laboratory (Berkeley Lab) have teamed with Silicon V
Sun Microsystems, Intel, Cisco, and others to demon
that could save billions of dollars a year in the energy costs of operating data centers, as well as improve reliability and lengthen equ
demonstration is taking place this summer at a test fa
Microsystems in Newark, CA. More than 20 high-techn
participating.

Eliminating power conversion losses by using DC (direc
AC (alternating current—from the electricity grid) powe
electricity throughout the data center can trim the ener
centers by 10 to 20 percent and improve reliability. Pre
measurements from the demonstration center in Newa
estimate.

Researchers in Berkeley Lab's Environmental Energy Te
(EETD) proposed this technology demonstration and the California Energy Commission's Public Interest Energy Research (PIER) program sponsored the work.

The Berkeley Lab team, which consists of project lead
Steve Greenberg, and Evan Mills, conceived the project
oversight for the demonstration's planning and design,
executed by private-sector firms ECOS Consulting and
contract with Berkeley Lab. The partner companies ha
advice, equipment, and staff to set up the demonstration facility.

Data centers are the backbone of the Internet, providing data storage for websites and databases accessible over the World Wide Web, and supporting virtually every larger sized private corporation and

Data center managers say that the rapid growth in
requirements, and the growing cost of electricity, h
concern.

According to a recent report by Berkeley Lab, SEMA
leaders ("High-Tech Means High Efficiency"), data c
hours a day, seven days a week, have among the h
energy-consuming equipment of any modern buildir

"They can use 100 times the electricity of a typical
foot basis," says William Tschudi, the Berkeley Lab
this project. "Energy costs of $1 million per month are not uncommon in large data centers that require megawatts of electricity."

Such factors as the rapid growth of the web, the increa
networks to help geographically dispersed teams, and
power has led to rapid growth in data centers and in th
Facilities managers, corporate information services de
Internet service providers are searching for ways to re
costs.

"We're excited to be able to demonstrate and evaluate the efficiency merits of two different data center DC power delivery approaches and expect our results can inform data center operators, facility designers and this global industry regarding efficient options for future designs," says My Ton of ECOS Consulting.

A number of strategies can be used by designers and managers of these facilities to decrease their power needs, such as optimizing airflows to get the most out of the cooling system, upgrading the energy efficiency of the

Data Center Weather Warnings

Active Warnings

Track severe weather down to the Street Level.

Last updated: 3:38 AM CT

-MI-Macomb County - 1:45 AM

-WI-Dane County - 2:00 AM

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